

=> FILE REG

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=> D HIS

FILE 'HCAPLUS'

L1 36250 S WEBER ?/AU  
L2 280 S WILKER ?/AU  
L3 32 S ALFTER ?/AU  
L4 87 S MACHOLDT ?/AU  
L5 2 S L1 AND L2 AND L3 AND L4  
SEL L5 2 RN

FILE 'REGISTRY'

L6 119 S E1-E119  
L7 26 S L6 AND 1/CL  
L8 5 S L6 AND 34/C  
L9 2 S L8 AND L7  
E C34 H31 CL N6 O13/MF  
L10 1 S E3

FILE 'HCA'

L11 2 S L10

FILE 'LREGISTRY'

L12 STR 852602-77-8  
L13 STR

FILE 'REGISTRY'

L14 0 S L13  
L15 STR L13  
L16 0 S L15  
L17 STR L15  
L18 0 S L17  
L19 35 S L17 FUL  
SAV L19 GRE344/A  
L20 0 S L13 SSS SAM SUB=L19  
L21 22 S L13 SSS FUL SUB=L19  
SAV L21 GRE344A/A  
E MXS/CI  
L22 85594 S E3

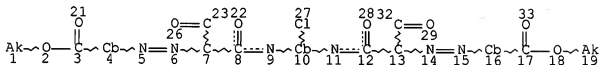
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 L24 0 S L19 AND L22  
 L25 118 S L6 NOT L19  
 L26 2207 S ORANGE#  
 L27 19230 S RED#  
 L28 1386 S VIOLET#  
 L29 1851 S PIGMENT#  
 L30 11581 S C(W)I  
 L31 117 S L25 AND (L26 OR L27 OR L28 OR L29 OR L30)

FILE 'HCA'

L32 18 S L21  
 L33 27 S L19  
 L34 11517 S L31  
 L35 2 S L32 AND L34  
 L36 5 S L33 AND L34  
 L37 4 S (L35 OR L36) NOT L11  
 L38 15 S L32 NOT (L11 OR L37)  
 L39 6 S L33 NOT (L11 OR L37 OR L38)  
 L40 15 S 1840-2003/PY,PRY AND L38  
 L41 6 S 1840-2003/PY,PRY AND L39

FILE 'REGISTRY'

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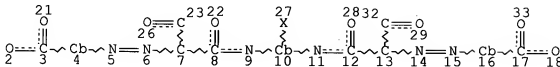
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STEREO ATTRIBUTES: NONE  
L17 STR



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DEFAULT ECLEVEL IS LIMITED

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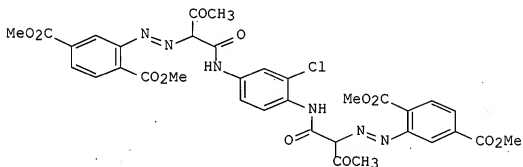
=> FILE HCA  
FILE 'HCA' ENTERED ON 20 JUL 2007  
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=> D L11 1-2 CBIB ABS HITSTR HITRN

L11 ANSWER 1 OF 2 HCA COPYRIGHT 2007 ACS on STN  
143:28081 Pigment compositions consisting of yellow disazo pigment and  
organic pigments. Weber, Joachim; Wilker, Gerhard; Alfter, Frank;  
Macholdt, Hans-Tobias (Clariant G.m.b.H., Germany). PCT Int. Appl.

WO 2005049737 A1 20050602, 26 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (German). CODEN: PIXXD2.  
APPLICATION: WO 2004-EP12788 20041111. PRIORITY: DE 2003-10353127 20031114.

GI



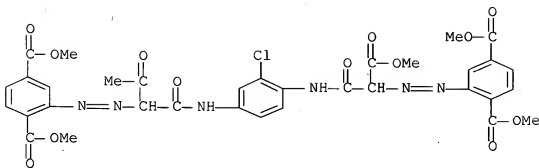
AB A pigment compn. useful for coloration of high-mol.-wt. materials such as plastics, lacquers and coatings, electrophotog. developers and toners, inks, etc., contains disazo pigment I and  $\geq 1$  pigment selected from org. orange, red and violet pigments. For example, a mixt. of NaCl 90, C.I. Pigment Red 177 9, disazo pigment I 6 g and 17 mL diethylene glycol was kneaded for 8 h at 40°, the mixt. was stirred for 2 h at 40° with 200 mL 5% aq. HCl, the resulting suspension was filtered and the solids washed and dried at 80° to give a title compn. that gave intensive reddish-orange color in an alkyd-melamine lacquer.

IT 852602-77-8

(pigment compns. consisting of yellow disazo pigment and org. pigments)

RN 852602-77-8 HCA

CN 1,4-Benzenedicarboxylic acid, 2-[[1-[[[4-[[2-[[2,5-bis(methoxycarbonyl)phenyl]azo]-1,3-dioxobutyl]amino]-2-chlorophenyl]amino]carbonyl]-2-methoxy-2-oxoethyl]azo]-, dimethyl ester (9CI) (CA INDEX NAME)



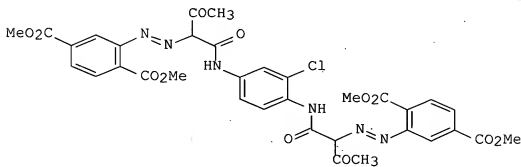
IT 852602-77-8

(pigment compns. consisting of yellow disazo pigment and org. pigments)

L11 ANSWER 2 OF 2 HCA COPYRIGHT 2007 ACS on STN

143:9189 Pigment compositions consisting of organic yellow pigment and phthalocyanine pigment. Weber, Joachim; Wilker, Gerhard; Alfter, Frank; Macholdt, Hans-Tobias (Clariant G.m.b.H., Germany). PCT Int. Appl. WO 2005049738 A1 20050602, 26 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (German). CODEN: PIXXD2. APPLICATION: WO 2004-EP12789 20041111. PRIORITY: DE 2003-10353126 20031114.

GI



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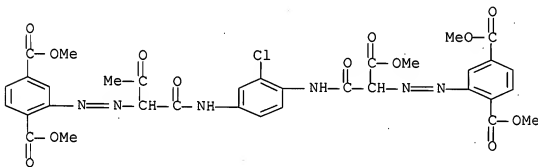
AB A pigment compn. useful for coloration of high-mol.-wt. materials such as plastics, lacquers and coatings, electrophotog. developers and toners, inks, etc., contains disazo pigment I and  $\geq 1$  phthalocyanine pigment. For example, a mixt. of NaCl 90, C.I. Pigment Green 36 10.5, disazo pigment I 4.5 g and 15 mL diethylene glycol was kneaded for 8 h at 45°, the mixt. was stirred for 2 h at 40-45° with 150 mL 5% aq. HCl, the resulting suspension was filtered and the solids washed and dried at 80° to give a title compn. that gave intensive yellowish-green color in an alkyd-melamine lacquer.

IT 852602-77-8

(pigment compns. consisting of org. yellow pigment and phthalocyanine pigment)

RN 852602-77-8 HCA

CN 1,4-Benzenedicarboxylic acid, 2-[[1-[[[4-[[2-[[2,5-bis(methoxycarbonyl)phenyl]azo]-1,3-dioxobutyl]amino]-2-chlorophenyl]amino]carbonyl]-2-methoxy-2-oxoethyl]azo]-, dimethyl ester (9CI) (CA INDEX NAME)



IT 852602-77-8

(pigment compns. consisting of org. yellow pigment and phthalocyanine pigment)

=> D L37 1-4 CBIB ABS HITSTR HITRN

L37 ANSWER 1 OF 4 HCA COPYRIGHT 2007 ACS on STN

142:318289 Organic pigment fine-particle, and method of producing the same. Maeta, Hideki; Shimizu, Yuki; Sato, Tadahisa (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl. EP 1516896 A1 20050323, 40 pp.

DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR. (English). CODEN: EPXXDW. APPLICATION: EP

2004-22399 20040921. PRIORITY: JP 2003-330726 20030922; JP  
2003-330587 20030922; JP 2004-87269 20040324.

AB Title method comprises the steps of: flowing a soln. of an org. pigment (e.g., 2,9-dimethylquinacridone) dissolved in an alk. or acidic aq. medium (e.g., sodium hydroxide), through a channel which provides a laminar flow; and changing a pH of the soln. in the course of the laminar flow. A method of producing a dispersion of a pigment, comprises the steps of: bringing a soln. in which an org. pigment is dissolved, and an aq. medium, into contact with each other in an app. having a channel whose equiv. diam. is 1 mm or less, thereby making the pigment into a fine particle thereof, wherein at least one of the soln. and the aq. medium contains a dispersing agent.

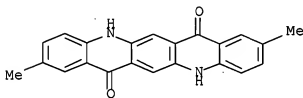
IT 980-26-7P, 2,9-Dimethylquinacridone 40618-31-3P,

Pigment Red 214

(prodn. of org. pigment fine-particle by changing pH of soln. in course of laminar flow)

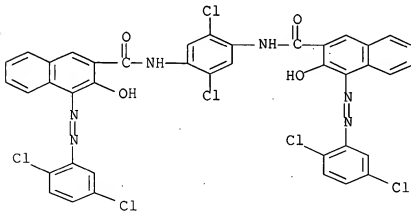
RN 980-26-7 HCA

CN Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-2,9-dimethyl- (CA INDEX NAME)



RN 40618-31-3 HCA

CN 2-Naphthalenecarboxamide, N,N'-(2,5-dichloro-1,4-phenylene)bis[4-[2-(2,5-dichlorophenyl)diazenyl]-3-hydroxy- (CA INDEX NAME)

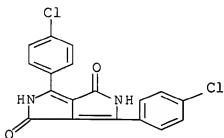


IT 84632-65-5, Pigment Red 254

(prodn. of org. pigment fine-particle by changing pH of soln. in course of laminar flow)

RN 84632-65-5 HCA

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4-chlorophenyl)-2,5-dihydro-  
(CA INDEX NAME)

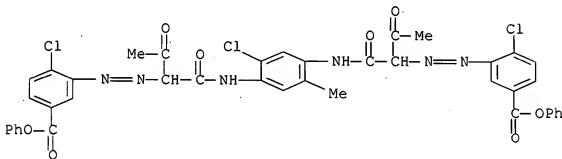


IT 34109-61-0

(starting material; prodn. of org. pigment fine-particle by changing pH of soln. in course of laminar flow)

RN 34109-61-0 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methyl-1,4-phenylene)bis(imino(1-acetyl-2-oxo-2,1-ethanediyl)azo)]bis[4-chloro-, diphenyl ester (9Cl)  
(CA INDEX NAME)



IT 980-26-7P, 2,9-Dimethylquinacridone 40618-31-3P,

Pigment Red 214

(prodn. of org. pigment fine-particle by changing pH of soln. in course of laminar flow)

IT 84632-65-5, Pigment Red 254

(prodn. of org. pigment fine-particle by changing pH of soln. in



course of laminar flow)

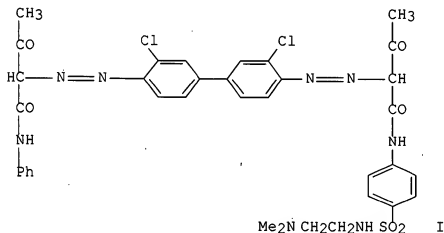
IT 34109-61-0

(starting material; prodn. of org. pigment fine-particle by changing pH of soln. in course of laminar flow)

L37 ANSWER 2 OF 4 HCA COPYRIGHT 2007 ACS on STN

138:370352 Manufacture of azo pigment compositions with high dispersibility for use in printing inks. Imagawa, Ippei; Chiba, Naka (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003128952 A 20030508, 28 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-323044 20011022.

GI



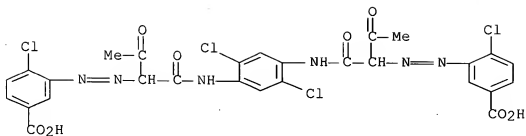
AB The process comprises dry pulverization of azo pigments together with azo compds. Q[A(CH<sub>2</sub>)<sub>n</sub>NR<sub>1</sub>R<sub>2</sub>]<sub>m</sub> [Q = azo dye residue; A = single bond, O, NR', S, CO, SO<sub>2</sub>, CR'R'', SO<sub>2</sub>NR', CONR'; R', R'' = H, C1-20 alkyl, phenyl; R<sub>1</sub>, R<sub>2</sub> = H, C1-4 alk(en)yl, Ph; R<sub>1</sub> and R<sub>2</sub> may form (N, O, or S-contg.) 5- or 6-membered ring; m, n = 1-4]. Crystal structure of the azo pigments is not changed in the process. Thus, a mixt. of C.I. Pigment Yellow 12 and I was dry pulverized and mixed with a resin and a solvent to give an offset ink showing good transparency, vivid color, and color difference ΔL\* 1.0 and ΔE\* 1.9 after 2-wk aging at 20° and at 50°.

IT 57440-77-4

(in prepn. of azo compds.; manuf. of azo pigment compns. with high dispersibility for printing inks)

RN 57440-77-4 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro- (9CI) (CA INDEX NAME)



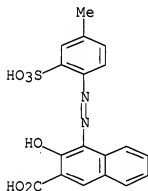
IT 5281-04-9, C.I. Pigment Red 57:1 7023-61-2, C.I.

Pigment Red 48:2 15793-73-4, C.I. Pigment Orange 34

(manuf. of azo pigment compns. with high dispersibility for printing inks)

RN 5281-04-9 HCA

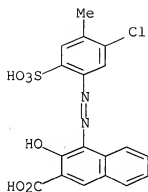
CN 2-Naphthalenecarboxylic acid, 3-hydroxy-4-[2-(4-methyl-2-sulfophenyl)diazenyl]-, calcium salt (1:1) (CA INDEX NAME)



● Ca

RN 7023-61-2 HCA

CN 2-Naphthalenecarboxylic acid, 4-[2-(5-chloro-4-methyl-2-sulfophenyl)diazenyl]-3-hydroxy-, calcium salt (1:1) (CA INDEX NAME)

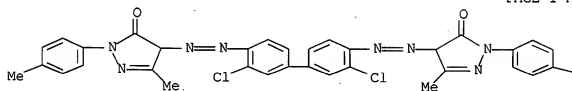


● Ca

RN 15793-73-4 HCA

CN 3H-Pyrazol-3-one, 4,4'-[(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(2,1-diazenediyl)]bis[2,4-dihydro-5-methyl-2-(4-methylphenyl)- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

Me

IT 57440-77-4

(in prepn. of azo compds.; manuf. of azo pigment compns. with

IT 5281-04-9, C.I. Pigment Red 57:1 7023-61-2, C.I.

(manuf. of azo pigment compns. with high dispersibility for printing inks)

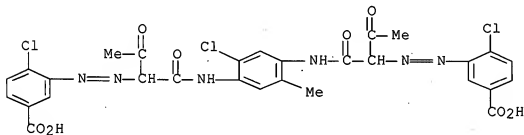
118:8307 Preparation of disazo pigments in halogen-free solvents. Ruf, Klaus; Guelec, Bilge; Reisinger, Michael; Surber, Werner (Ciba-Geigy A.-G., Switz.). Eur. Pat. Appl. EP 498769 A1 19920812, 17 pp.

APPLICATION: EP 1992-810069 19920130. PRIORITY: CH 1991-383

AB The pigments, based on bis(hydroxynaphthylamino)- and bis(acetoacetyl amino)benzene, are obtained by using 1,2,3-trimethylbenzene (I) or anisole as solvent. Thus, 3-hydroxy-2-naphthoic acid was coupled with diazotized 2,5-dichloroaniline in I. The product was converted to the acid chloride and condensed with 2-chloro-1,4-phenylenediamine using I as solvent to give 90% diamide disazo pigment.

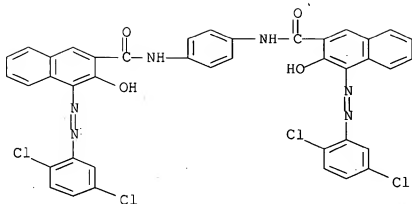
(conversion of, to acid chloride)

CN Benzoic acid, 3,3'-[(2-chloro-5-methyl-1,4-phenylene)bis(imino(1-acetyl-2-oxo-2,1-ethanediy)azo)]bis[4-chloro- (9Cl) (CA INDEX NAME)



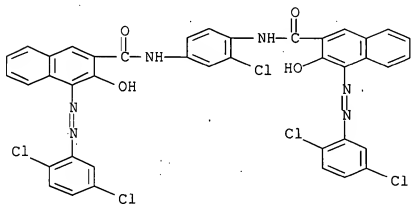
(pigment, prepn. of, using halogen-free solvent)

CN 2-Naphthalenecarboxamide, N,N'-1,4-phenylenebis[4-[2-(2,5-dichlorophenyl)diazenyl]-3-hydroxy- (CA INDEX NAME)



RN 5280-78-4 HCA

CN 2-Naphthalenecarboxamide, N,N'-(2-chloro-1,4-phenylene)bis[4-[2-(2,5-dichlorophenyl)diazenyl]-3-hydroxy- (CA INDEX NAME)



IT 60728-43-0

(conversion of, to acid chloride)

IT 3905-19-9P 5280-78-4P

(pigment, prepn. of, using halogen-free solvent)

L37 ANSWER 4 OF 4 HCA COPYRIGHT 2007 ACS on STN

91:58691 Condensed pigments from the reaction of azo-dye carboxylic acid halides with aromatic amines. Muzik, Ferdinand; Kristek, Jan;

Marhan, Jiri; Bartosek, Jan; Kusyn, Jaroslav (Czech.). Czech. CS

176708 19790115, 6 pp. (Czech). CODEN: CZXXA9. APPLICATION: CS

1975-1868 19750320.

AB Condensation of halides of azo-dye carboxylic acids with arom. diamines to form insol. pigments in inert org. solvents is carried out in a stream of inert gas, e.g., N to remove by-product hydrogen halide from the suspension. The method reduces corrosion of equipment, increases the rate of condensation, reduces side reactions (e.g. formation of esters), allows recovery of solvent, and facilitates the final isolation of pigment at higher temp. Thus, 2,5,1,4-Cl<sub>2</sub>C<sub>6</sub>H<sub>2</sub>(NH<sub>2</sub>)<sub>2</sub> [20103-09-7] was condensed with 2,3-Cl<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> → 2,3-HOC<sub>10</sub>H<sub>6</sub>COCl [42481-25-4] in boiling PhCl and N was bubbled through the mixt. as long as HCl was liberated. The disazo pigment [40618-31-3], suitable for plastics and baking varnishes, was filtered, washed with hot PhCl, MeOH, EtOH, and H<sub>2</sub>O, and dried.

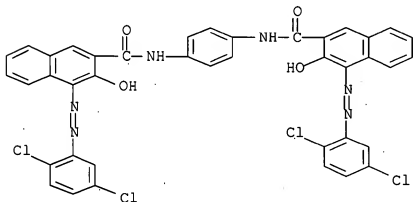
IT 3905-19-9P 5280-78-4P 40618-31-3P

70945-14-1P

(manuf. of, by-product hydrogen chloride removal in, by purging)

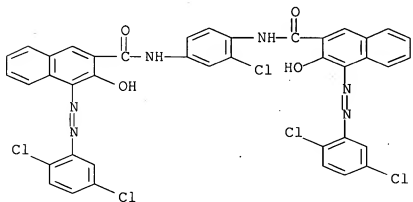
RN 3905-19-9 HCA

CN 2-Naphthalenecarboxamide, N,N'-1,4-phenylenebis[4-(2-(2,5-dichlorophenyl)diazenyl)-3-hydroxy- (CA INDEX NAME).



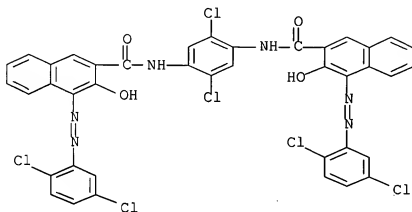
RN 5280-78-4 HCA

CN 2-Naphthalenecarboxamide, N,N'-(2-chloro-1,4-phenylene)bis[4-(2-(2,5-dichlorophenyl)diazenyl)-3-hydroxy- (CA INDEX NAME)



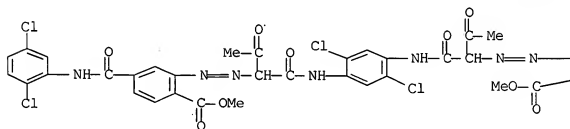
RN 40618-31-3 HCA

CN 2-Naphthalenecarboxamide, N,N'-(2,5-dichloro-1,4-phenylene)bis[4-[2-(2,5-dichlorophenyl)diazenyl]-3-hydroxy- (CA INDEX NAME)

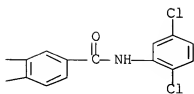


RN 70945-14-1 HCA

CN Benzoic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-[[[(2,5-dichlorophenyl)amino]carbonyl]-, dimethyl ester (9Cl) (CA INDEX NAME)



PAGE 1-A

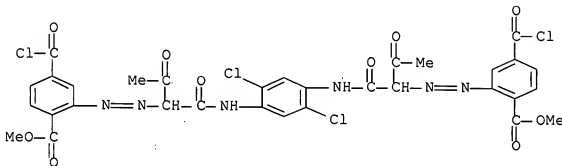


## IT 70904-50-6

(reaction of, with dichloroaniline, by-product hydrogen chloride removal in)

RN 70904-50-6 HCA

CN Benzoic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis(imino(1-acetyl-2-oxo-2,1-ethanediyl)azo)]bis[4-(chlorocarbonyl)-, dimethyl ester (9CI) (CA INDEX NAME)



## IT 3905-19-9P 5280-78-4P 40618-31-3P

70945-14-1P

(manuf. of, by-product hydrogen chloride removal in, by purging)

IT 70904-50-6

(reaction of, with dichloroaniline, by-product hydrogen chloride removal in)

=> D L38 1-15 CBIB ABS HITSTR HITRN

L38 ANSWER 1 OF 15 HCA COPYRIGHT 2007 ACS on STN

121:111471 Preparation and use of disazo pigments. Jung, Ruediger;

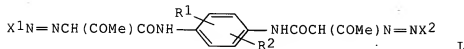
Weide, Joachim; Metz, Hans Joachim (Hoechst A.-G., Germany). Ger.

Offen. DE 4229207 A1 19940303, 24 pp. (German). CODEN: GWXXBX.



APPLICATION: DE 1992-4229207 19920902.

GI



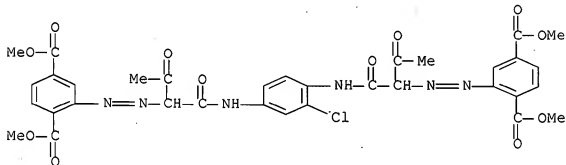
AB The pigments (I; R<sup>1</sup>, R<sup>2</sup> = H, halogen, C1-4-alkyl, C1-4-alkoxy, alkoxycarbonyl, NO<sub>2</sub>, CN, OPh, CF<sub>3</sub>; X<sup>1</sup>, X<sup>2</sup> = optionally substituted Ph, naphthyl, anthraquinonyl, or condensed heterocyclic group) are obtained by aq. 1-step azo coupling using ≥1 nonionic surfactant (having an aq. cloud point) before isolation of the pigment and are used for printing inks. I thus obtained have improved coloristic properties. Thus, 4,2-O<sub>2</sub>N(MeO)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> was diazotized and coupled 2:1 with p-C<sub>6</sub>H<sub>4</sub>(NHCOCH<sub>2</sub>COMe)<sub>2</sub> using an ethoxylated, propoxylated C12-15 fatty alc. to give an orange pigment. The pigment purity was improved by use of the surfactant.

IT 156564-67-9P

(prepn. of, as yellow pigment for printing inks)

RN 156564-67-9 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2-chloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, tetramethyl ester (9CI) (CA INDEX NAME)



IT 156564-67-9P

(prepn. of, as yellow pigment for printing inks)

L38 ANSWER 2 OF 15 HCA COPYRIGHT 2007 ACS on STN

115:116292 Conditioning amorphous disazo pigments. Dobrovolny, Jan;

Chlost, Milan; Sotona, Vladimir; Kvapilova, Lenka (Czech.). Czech.

CS 266632 B1 19900813, 5 pp. (Czech). CODEN: CZXXA9. APPLICATION:

CS 1988-3508 19880524.

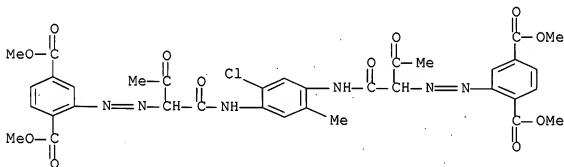
AB Amorphous disazo pigments 1,4-[R1R2R3C6H2N:NCH-(COMe)CONH]2-2- R4C6H3, where R1, R2, R3 = H, Cl, MeOCO, EtOCO, Me, NO2, CN, MeO, H2NCO in positions 2, 3, 4, 5 and R4 = H, Cl, Me, MeO, CN, resulting from coupling in aq. medium are transferred into the brilliant and stable cryst. form by heating in C1-3-alkanol, H2O, or their mixts. at 100-150° and ≤600 kPa. The stability is further improved if the heating proceeds in the presence of 0.01-0.6 mol (NH2NH2) per mol dye and Mn, Zn, or Sn salts as catalysts, where the monoazo dye is reduced to colorless products. Thus, 72 g ground dry amorphous 1,4-[2,5-(MeOCO)2-C6H3N:NCH(COMe)CONH]2C6H4 was heated in 900 mL 96% EtOH to 130° and 550 kPa for 8 h giving the stable cryst. pigment with av. particle size 0.23 μm, similar to those obtained by heating in DMF to 130° for 1 h.

IT 33370-60-4

(stable crystal form, conditioning process for)

RN 33370-60-4 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, tetramethyl ester (9Cl) (CA INDEX NAME)



IT 33370-60-4

(stable crystal form, conditioning process for)

L38 ANSWER 3 OF 15 HCA COPYRIGHT 2007 ACS on STN

109:130807 Preparation of condensation disazo pigments. Bartosek, Jan;

Weisbauer, Vaclav (Czech.). Czech. CS 246533 B1 19871215, 5 pp.

(Czech). CODEN: CZXXA9. APPLICATION: CS 1984-6496 19841023.

AB Yellow disazo pigments, (RNHCOBN:NCHAcCONH)2A [A, B = (un)substituted arylene; R = (un)substituted aryl] contg. 5-20% corresponding ester derivs. (R1O2CBN:NCHAcCONH)2A (R1 = C2-8 alkyl), useful for coloring high-mol.-wt. org. polymers, rubbers, silicones, and lacquers, are prepd. by condensation of the corresponding dicarbonyl chloride derivs. with an aniline deriv. in the presence of C2-8 alkanols contg. CaCO3, MgCO3, CaO, or MgO at 110-140°. These alcs. replace the toxic arom. hydrocarbons and allow direct washing of the filtered pigment with water. A 2-fold molar excess of 3,4-HO2C(Cl)C6H3NH2 was diazotized and coupled with 1,4-(MeCOCH2CONH)2C6H2Cl2-2,5, the carboxyl group-contg. disazo intermediate chlorinated with SOCl2, and the dicarbonyl chloride-contg. disazo intermediate stirred with a mixt. of 2,5-Me(Cl)C6H3NH2, EtOH, and CaCO3 at 110°/0.4-

0.5 mPa for 3 h in an autoclave, and the mixt. filtered at 75° and washed with EtOH and H2O to produce a yellow pigment mixt.

IT 116481-73-3 116481-77-7 116481-78-8

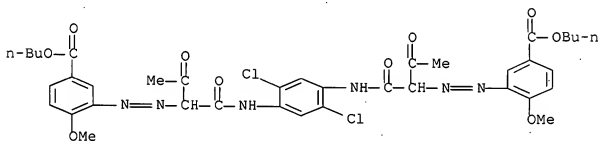
116521-78-9

(pigment contg., yellow, for high-mol.-wt. polymers)

RN 116481-73-3 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-methoxy-, dibutyl ester (9CI) (CA

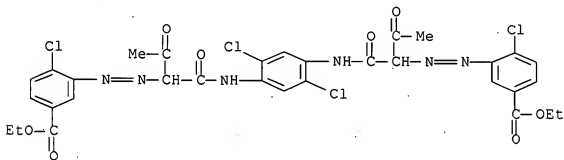
INDEX NAME)



RN 116481-77-7 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro-, diethyl ester (9CI) (CA

INDEX NAME)

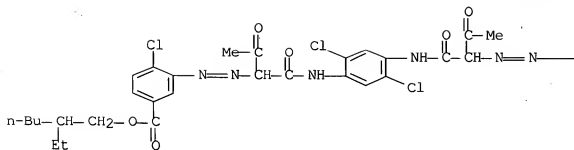


RN 116481-78-8 HCA

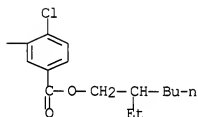
CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro-, bis(2-ethylhexyl) ester (9CI)

(CA INDEX NAME)

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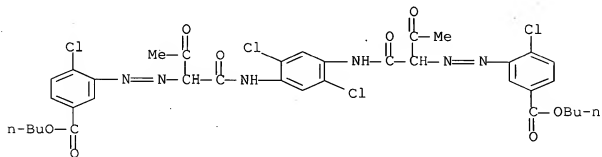


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RN 116521-78-9 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro-, dibutyl ester (9Cl) (CA  
INDEX NAME)



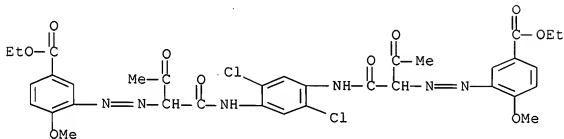
IT 116481-76-6P

(prepn. and condensation of, with chloromethylaniline)

RN 116481-76-6 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-methoxy-, diethyl ester (9CI) (CA

INDEX NAME)



IT 116481-73-3 116481-77-7 116481-78-8

116521-78-9

(pigment contg., yellow, for high-mol.-wt. polymers)

IT 116481-76-6P

(prepn. and condensation of, with chloromethylaniline)

L38 ANSWER 4 OF 15 HCA COPYRIGHT 2007 ACS on STN

107:238569 Preparation of yellow azo pigments. Dobrovolny, Jan;

Bartosek, Jan; Kvapilova, Lenka; Weisbauer, Vaclav (Czech.). Czech.

CS 219960 B1 19851015, 6 pp. (Czech). CODEN: CZXXA9. APPLICATION:

CS 1979-3121 19791205.

AB The yellow pigments  $\text{RNHCOZ1N:NCH(ComE)CONHZ2NHCOCH(ComE)N:NZ1CONHR}$  [Z1, Z2 = (un)substituted arylene; R = (un)substituted aryl] are prepd. by condensing  $\text{ClCOZ1N:NCH(ComE)CONHZ2NHCOCH(ComE)N:NZ1COCl}$  with  $\text{RNH2}$  in 1:2 mol ratio in inert solvents at 60-180° in the presence of carboxylic acid, amide, or imide catalysts. Disazo dye prepd. from diazotized 1-Me 2-aminoterephthalate and 1,4-bis(acetoacetamido)-2-chloro-5-methylbenzene (mol. ratio 2:1) was converted to the diacid chloride and stirred with 14.9 g 3-chloro-2-methylaniline and 0.6 g AcOH in 700 g 1,2-C6H4Cl2 for 0.5 h at 135-140°, vs. 4.5 h with no catalyst.

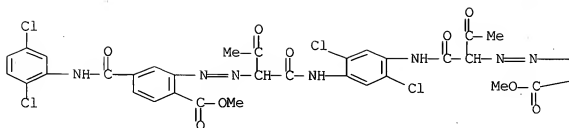
IT 70945-14-1P 94470-56-1P

(pigments, yellow, manuf. of)

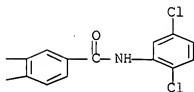
RN 70945-14-1 HCA

CN Benzoic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-[(2,5-dichlorophenyl)amino]carbonyl]-, dimethyl ester (9CI) (CA INDEX NAME)

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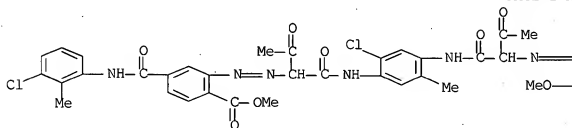
PAGE 1-B

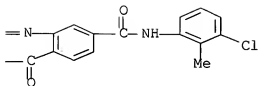


RN 94470-56-1 HCA

CN Benzoic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-[[[(3-chloro-2-methylphenyl)amino]carbonyl]-, dimethyl ester (9Cl) (CA INDEX NAME)

PAGE 1-A



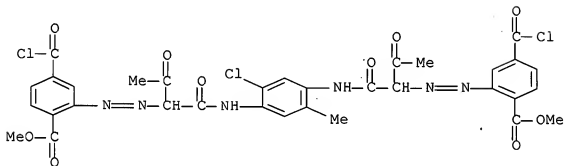


IT 62554-57-8P

(prepn. and condensation of, with chloromethylaniline)

RN 62554-57-8 HCA

CN Benzoic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-(chlorocarbonyl)-, dimethyl ester (9CI) (CA INDEX NAME)

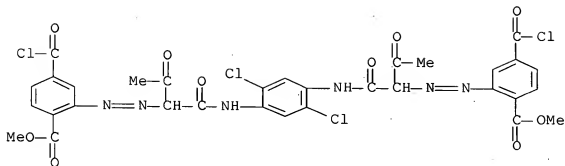


IT 70904-50-6P

(prepn. and condensation of, with dichloroaniline)

RN 70904-50-6 HCA

CN Benzoic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-(chlorocarbonyl)-, dimethyl ester (9CI) (CA INDEX NAME)

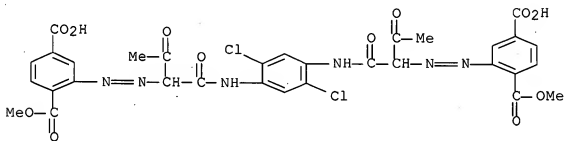


IT 60728-42-9P 94470-53-8P

(prepn. of)

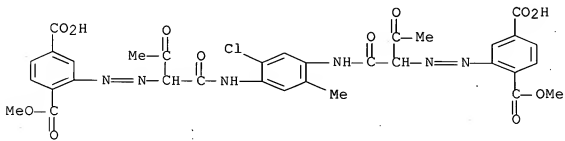
RN 60728-42-9 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, 1,1'-dimethyl ester (9CI) (CA INDEX NAME)



RN 94470-53-8 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, 1,1'-dimethyl ester (9CI) (CA INDEX NAME)

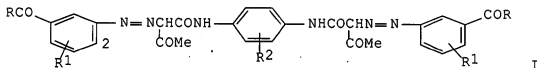




- IT 70945-14-1P 94470-56-1P  
(pigments, yellow, manuf. of)  
IT 62554-57-8P  
(prepn. and condensation of, with chloromethylaniline)  
IT 70904-50-6P  
(prepn. and condensation of, with dichloroaniline)  
IT 60728-42-9P 94470-53-8P  
(prepn. of)

L38 ANSWER 5 OF 15 HCA COPYRIGHT 2007 ACS on STN  
102:63589 Yellow azo condensation pigments. Dobrovolny, Jan; Bartosek,  
Jan; Brabenec, Ladislav; Kvapilova, Lenka; Weisbauer, Vaclav  
(Czech.). Czech. CS 216451 B1 19840701, 9 pp. (Czech). CODEN:  
CZXXA9. APPLICATION: CS 1979-8413 19791205.

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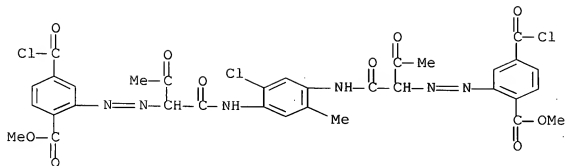


- AB Yellow azo pigments [I; R = 2,3-MeCIC6H3NH, 2,5-MeCIC6H3NH, 2,5-Cl2C6H3NH; R1 = 4-MeO2C, 4-Cl; R3 = 2,5-ClMe, 2,5-Cl2] are prepd. by condensation of I (R = Cl) with 2 mol aniline deriv. RH in PhCl or 1,2-C6H4Cl2 (II) at 60-180° in the absence of bases. The reaction rate is increased and the hydrolysis of dichloride is suppressed in comparison with the prepn. in the presence of pyridine (III). Thus, the prepn. of I (R = 2,3-MeCIC6H3NH, R1 = 2-MeO2C, R2 = 2,5-ClMe) [94470-56-1] in II at 110° took 4.5 and 15 h in the absence and presence of III, resp.

- IT 62554-57-8  
(condensation of, with chloromethylaniline in absence of  
pyridine)

RN 62554-57-8 HCA

- CN Benzoic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-(chlorocarbonyl)-, dimethyl  
ester (9CI) (CA INDEX NAME)



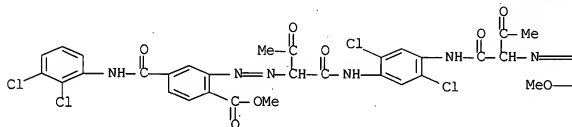
IT 94470-55-0P 94470-56-1P

(pigment, manuf. of)

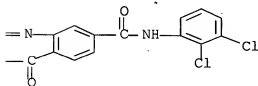
RN 94470-55-0 HCA

CN Benzoic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-[[[(2,3-dichlorophenyl)amino]carbonyl]-, dimethyl ester (9CI) (CA INDEX NAME)

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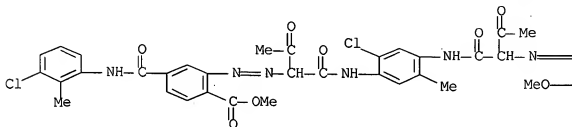
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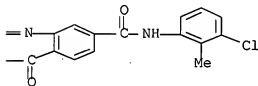
RN 94470-56-1 HCA

CN Benzoic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-[[[(3-chloro-2-methylphenyl)amino]carbonyl]-, dimethyl ester (9CI) (CA INDEX NAME)

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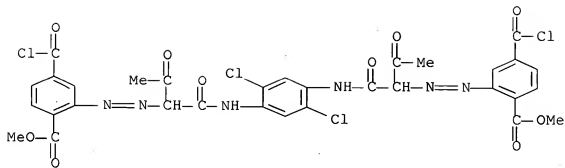


IT 70904-50-6

(reaction of, with dichloroaniline in absence of pyridine)

RN 70904-50-6 HCA

CN Benzoic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-(chlorocarbonyl)-, dimethyl ester (9CI) (CA INDEX NAME)

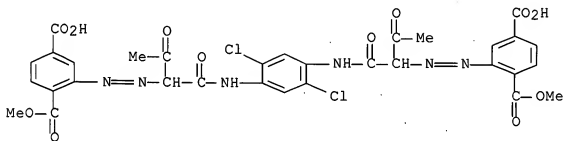


IT 60728-42-9

(reaction of, with phosgene)

RN 60728-42-9 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, 1,1'-dimethyl ester (9CI) (CA INDEX NAME)

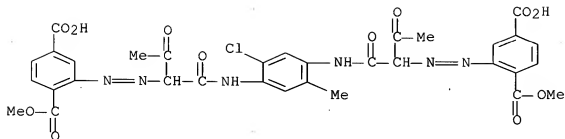


IT 94470-53-8

(reaction of, with thionyl chloride)

RN 94470-53-8 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, 1,1'-dimethyl ester (9CI) (CA INDEX NAME)



IT 62554-57-8

(condensation of, with chloromethylaniline in absence of pyridine)

IT 94470-55-0P 94470-56-1P

(pigment, manuf. of)

IT 70904-50-6

(reaction of, with dichloroaniline in absence of pyridine)

IT 60728-42-9

(reaction of, with phosgene)

IT 94470-53-8

(reaction of, with thionyl chloride)

L38 ANSWER 6 OF 15 HCA COPYRIGHT 2007 ACS on STN

101:132460 Disazo dyes based on aminobenzoic acids and bis(acetoacetamides). Dobrovolny, Jan; Bartosek, Jan; Havlickova, Libuse; Kolonicny, Alois; Panek, Jan; Kvapilova, Lenka; Weisbauer, Vaclav (Czech.). Czech. CS 208620 B1 19831201, 6 pp. (Czech).

CODEN: CZXXA9. APPLICATION: CS 1979-8535 19791207.

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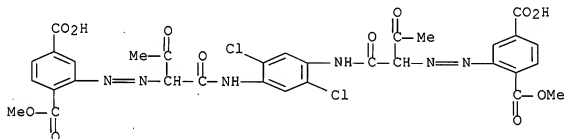
AB Pure yellow disazo dyes of general structure  $[\text{HO}2\text{CZN:NCH}(\text{COMe})\text{CONH}]2\text{Z}1$  (Z = phenylene optionally substituted by halogen, alkyl, alkoxy,  $\text{CF}_3$ , carbalkoxy, or  $\text{NO}_2$ ;  $\text{Z}1$  = arylene optionally substituted by 1 or 2 halogen atoms, alkyl, alkoxy,  $\text{CF}_3$  or  $\text{CN}$ ) are prepd. by coupling a diazotized aminobenzoic acid with an arom. bis(acetoacetamide) (mol. ratio 2:1) in an aq. suspension or soln. at pH 3.5-13 and 0-80°. The components are mixed in various ways depending on pH, and the dye is isolated as the free diacid and/or the di-Na salt. Up to 10% dispersing agents may be added. Thus, a soln. of 35.4 g 4,3-Cl( $\text{H}_2\text{N}$ ) $\text{C}_6\text{H}_3\text{CO}_2\text{H}$  [2840-28-0] was diazotized and added to a suspension of 30.4 g 1,4-bis(acetoacetyl amino)-2,5-dimethylbenzene [24304-50-5] (prepd. by pptn. of its alk. enolate with  $\text{AcOH}$ ) at pH 5.2 and 60° to give a paste contg. 65.6 g l [74351-78-3].

IT 60728-42-9P

(dye, manuf. of)

RN 60728-42-9 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, 1,1'-dimethyl ester (9Cl) (CA INDEX NAME)



IT 60728-42-9P

(dye, manuf. of)

L38 ANSWER 7 OF 15 HCA COPYRIGHT 2007 ACS on STN

99:89617 Purification of azo condensation pigments. Gutwirth, Karel;

Dobrovolny, Jan (Czech.). Czech. CS 210295 B1 19830115, 5 pp.

(Czech). CODEN: CZXXA9. APPLICATION: CS 1980-5280 19800728.

AB Condensation disazo pigments of general structure  $[\text{RNHCOZIN:NCH}(\text{Ac})\text{CONH}]2\text{Z}$  (Z = optionally substituted arylene;  $\text{Z}1$  = optionally substituted phenylene; R = optionally substituted aryl) are purified by dissoln. in 85-100%  $\text{H}_2\text{SO}_4$  at  $\leq 80^\circ$  and pptn. with  $\text{H}_2\text{O}$ . Dry pigments or their pastes in org. solvents from their prepn. are used. The purified pigments are fast to heat, light, and migration and are used for dyeing of plastics and lacquers.

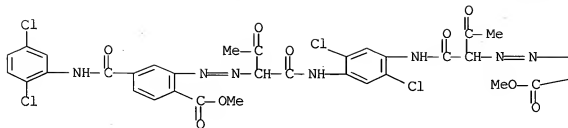
IT 70945-14-1P

(pigment, purifn. of)

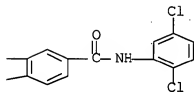
RN 70945-14-1 HCA

CN Benzoic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-[[[(2,5-dichlorophenyl)amino]carbonyl]-, dimethyl ester (9Cl) (CA INDEX NAME)

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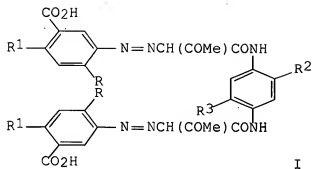
PAGE 1-B



IT 70945-14-1P  
(pigment, purifn. of)

L38 ANSWER 8 OF 15 HCA COPYRIGHT 2007 ACS on STN  
98:145037 Anhydrous suspensions of disazo dyes. Bartosek, Jan;  
Dobrovolny, Jan; Janda, Frantisek; Stepanek, Zdenek (Czech.).  
Czech. CS 197882 B1 19820701, 6 pp. (Czech). CODEN: CZXXA9.  
APPLICATION: CS 1978-3335 19780523.

GI



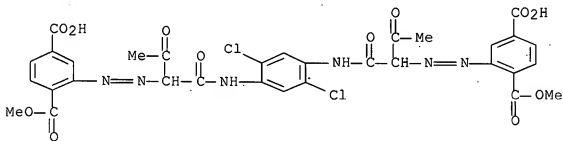
AB Fine anhyd. suspensions of dicarboxylic disazo compds. I ( $R-R_3 = H$ , nonionic substituents), suitable for easy conversion to I dicarbonyl chlorides with  $\text{COCl}_2$ ,  $\text{SOCl}_2$ , or  $\text{P}$  chlorides in the synthesis of stable pigments, are prepd. by blending and(or) grinding the aq. paste of I in an org. solvent to particle size  $< 50 \mu$ , followed by azeotropic distn. of  $\text{H}_2\text{O}$ . The dehydration of the suspension, which does not contain  $\text{H}_2\text{O}$ -retaining aggregates, proceeds then without problems. Examples described the dehydration of  $\text{o-C}_6\text{H}_4\text{Cl}_2$  suspensions of I ( $R = \text{Cl}$ ,  $R_1 = H$ ,  $R_2 = R_3 = \text{Me}$ ) [74351-78-3] and I ( $R = \text{CO}_2\text{Me}$ ,  $R_1 = H$ ,  $R_2 = R_3 = \text{Cl}$ ) [60728-42-9].

IT 60728-42-9

(suspensions of, in dichlorobenzene, anhyd., for diacid chloride prepn.)

RN 60728-42-9 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[[2,5-dichloro-1,4-phenylene]bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, 1,1'-dimethyl ester (9Cl) (CA INDEX NAME)

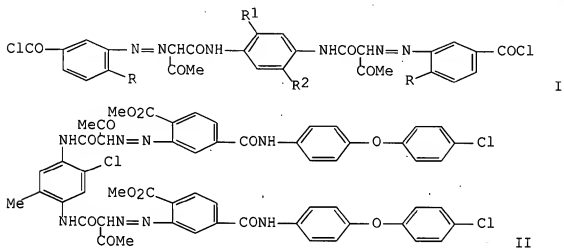


IT 60728-42-9

(suspensions of, in dichlorobenzene, anhyd., for diacid chloride prepn.)



86:173052 Yellow carbamoyl disazo pigments. Dobrovolny, Jan; Matous, Vladimir; Kvapilova, Lenka (Czech.). Czech. CS 164664 19760915, 4 pp. (Czech). CODEN: CZXXA9. APPLICATION: CS 1973-8023 19731122.  
GI



AB Fast yellow pigments were prepd. from 1 mol disazo diacid chloride I (R = CO<sub>2</sub>Me, OMe, Cl; R<sub>1</sub> and R<sub>2</sub> = Cl, Me) and ≥2 mol aminodiphenyl ether deriv. in anhyd. solvent at ≥100°. Thus, I (R = CO<sub>2</sub>Me, R<sub>1</sub> = Cl, R<sub>2</sub> = Me) [62554-57-8] (from the corresponding carboxylic acid and SOCl<sub>2</sub>) was condensed with 4-chloro-4'-aminodiphenyl ether [101-79-1] in o-C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub> at 140° to give yellow pigment II [62554-58-9] of soft texture.

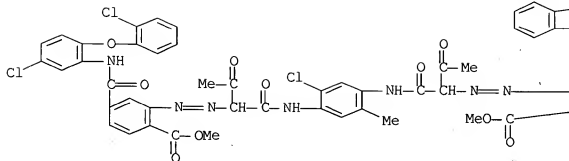
IT 62554-56-7P 62554-58-9P

(pigment, manuf. of)

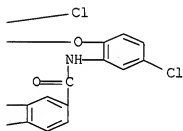
RN 62554-56-7 HCA

CN Benzoic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-[[[5-chloro-2-(2-chlorophenoxy)phenyl]amino]carbonyl]-, dimethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

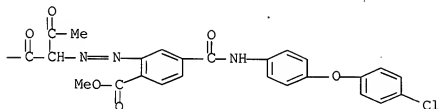
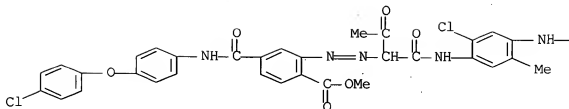


PAGE 1-B



RN 62554-58-9 HCA

CN Benzoic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis(imino(1-acetyl-2-oxo-2,1-ethanediyl)azo)]bis[4-[[[4-(4-chlorophenoxy)phenyl]amino]carbonyl]], dimethyl ester (9Cl) (CA INDEX NAME)

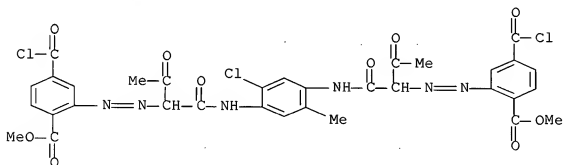


IT 62554-57-8

(reaction of, with aminodiphenyl ethers)

RN 62554-57-8 HCA

CN Benzoic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-(chlorocarbonyl)-, dimethyl ester (9CI) (CA INDEX NAME)



IT 62554-56-7P 62554-58-9P

(pigment, manuf. of)

IT 62554-57-8

(reaction of, with aminodiphenyl ethers)

L38 ANSWER 10 OF 15 HCA COPYRIGHT 2007 ACS on STN

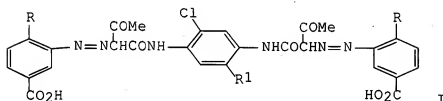
85:178965 Bisazo dyes of suitable physical form. Bartosek, Jan; Muzik,

Ferdinand; Dobrovolny, Jan; Matous, Vladimir; Weisbauer, Vaclav

(Czech.). Czech. CS 161456 19751115, 2 pp. (Czech). CODEN:

CZXXA9. APPLICATION: CS 1973-2358 19730403.

GI



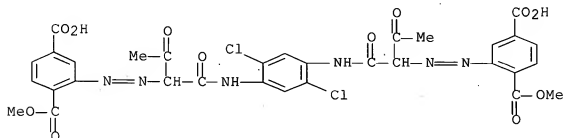
AB Disazo pigments prepd. by coupling diazotized carboxyanilines with 1,4-bis(acetoacetamido)benzene derivs. are obtained in easily filterable form when 10-15% surfactant based on an ethylene oxide adduct with a resin contg. abietic acid [514-10-3] is added after coupling and isolation is carried out from acid soln. Thus, 2.13% surfactant, prepd. from ethylene oxide and the low-boiling rosin fraction, was added to I (R = CO2Me, R1 = Cl)(II) [ 60728-42-9], prepd. by coupling at 20° and pH 8-9, and the mixt. was acidified and heated to 90-5° to give II in a cryst. form easily isolated and sepd. from sol. impurities. I (R = Cl, R1 = Me) [60728-43-0] was similarly prepd.

IT 60728-42-9P

(manuf. of, filterability and purity improvement in)

RN 60728-42-9 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, 1,1'-dimethyl ester (9CI) (CA INDEX NAME)



IT 60728-42-9P

(manuf. of, filterability and purity improvement in)

L38 ANSWER 11 OF 15 HCA COPYRIGHT 2007 ACS on STN

82:113175 Disazo pigment. Cseh, Georg; Ronco, Karl (Ciba-Geigy A.-G.).

Ger. Offen. DE 2418299 19741107, 32 pp. (German). CODEN: GWXXBX.

APPLICATION: DE 1974-2418299 19740416.

GI For diagram(s), see printed CA Issue.

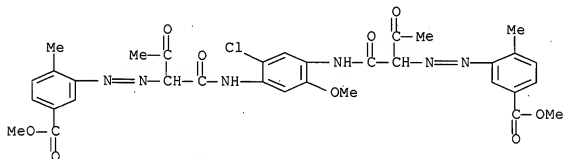
AB Coupling diazotized 4,3-Me(H<sub>2</sub>N)C<sub>6</sub>H<sub>3</sub>CO<sub>2</sub>Me [18595-18-1] with 2-methoxy-5-chloro-1,4-bis(acetoacetyl amino)benzene [50381-03-8] gave yellow dye (I) [54518-31-9], used for dyeing PVC [9002-86-2] light- and migrationfast yellow shades and for printing inks.

IT 54518-31-9P

(prepn. of)

RN 54518-31-9 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methoxy-1,4-phenylene)bis(imino(1-acetyl-2-oxo-2,1-ethanediyl)azo)]bis[4-methyl-, dimethyl ester (9CI)  
(CA INDEX NAME)



IT 54518-31-9P

(prepn. of)

L38 ANSWER 12 OF 15 HCA COPYRIGHT 2007 ACS on STN

79:127375 Condensed diazo pigments. Kraska, Jan (Politechnika, Lodzka).

Pol. PL 65594 19720815, 3 pp. (Polish). CODEN: POXXA7.

APPLICATION: PL 19680419.

AB Disazo pigments [I, R = MeO, EtO; R<sub>1</sub> = EtO, MeO, Cl; Q = CH:CH, m- or p-C<sub>6</sub>H<sub>4</sub>, (CH<sub>2</sub>)<sub>4</sub>, CH<sub>2</sub>CH<sub>2</sub>] were prepd. Thus, a mixt. of terephthaloyl chloride and 4-[(p-benzamido-2,5-dimethoxyphenyl)azo]-3-methyl-1-(p-aminophenyl)-5-pyrazolone was refluxed in PhCl to give red. disazo pigment I(R = R<sub>1</sub> = MeO, Q = p-C<sub>6</sub>H<sub>4</sub>, NHCO linkage in 4 position) [33370-60-4]. The other I were similarly prepd.

L38 ANSWER 13 OF 15 HCA COPYRIGHT 2007 ACS on STN

78:73628 Disazo pigments. (Ciba-Geigy A.-G.). Fr. Demande FR 2106450

19720609, 21 pp. (French). CODEN: FRXXBL. APPLICATION: FR

1971-32695 19710910.

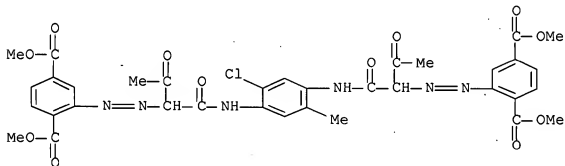
AB Four disazo pigments (I, R = Me or Et; X = Me, MeO; Y = H, Cl, Me) were prepd. and used to dye lacquer and plastics, esp. poly(vinyl chloride), light- and migration-fast yellow shades. Thus, 2,5-(MeO<sub>2</sub>C)2C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> was diazotized and coupled with 4,2,5-Me(AcCH<sub>2</sub>CONH)2C<sub>6</sub>H<sub>2</sub>Cl to give yellow disazo pigment I (R = Me, X = Me, Y = Cl) [33370-60-4]. The other I were similarly prepd.

IT 33370-60-4P 41131-70-8P

(prepn. of)

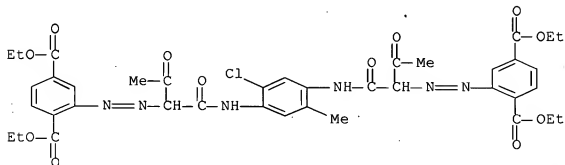
RN 33370-60-4 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, tetramethyl ester (9Cl) (CA INDEX NAME)



RN 41131-70-8 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, tetraethyl ester (9Cl) (CA INDEX NAME)



IT 33370-60-4P 41131-70-8P  
(prepn. of)

L38 ANSWER 14 OF 15 HCA COPYRIGHT 2007 ACS on STN  
75:65282 Disperse disazo dyes. Forter, Willy; Goldmann, Juergen (Sandoz  
Ltd.). Ger. Offen. DE 2058849 19710609, 41 pp. (German). CODEN:  
GWXXBX. APPLICATION: DE 1970-2058849 19701130.

GI For diagram(s), see printed CA Issue.

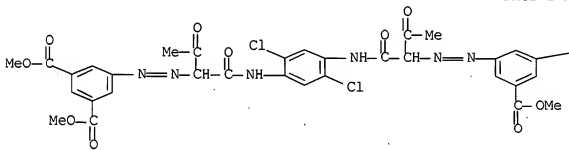
AB Waterinsol. 1,4-bis[2-[3,5-bis[N-(3-chloro-o- tolyl)carbamou]phenylazo]acetoacetamido]1-2,5-  
dichlorobenzene (I) was prepd. Thus, diazotized 5-aminoisophthalic acid (II) was coupled with 1,4-  
bis(acetoacetamido)-2,5-dichlorobenzene, treated with SOCl<sub>2</sub>, and the acid chloride treated with 3-  
chloro-o- toluidine to give I, a fast greenish yellow dye for PVC. Coupling II with 1,4-  
bis(acetoacetamido)benzene in the presence of 30% NaOH and heating 1 hr at 80° after coupling gave  
another fast dye for PVC.

IT 33370-59-1P 33370-60-4P  
(prepn. of)

RN 33370-59-1 HCA

CN Isophthalic acid, 5,5'-[(2,5-dichloro-p-  
phenylene)bis(iminocarbonylacetonylidene)]di-, tetramethyl ester  
(8Cl) (CA INDEX NAME)

PAGE 1-A

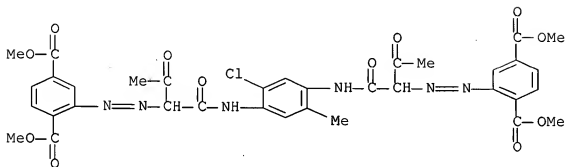


PAGE 1-B



RN 33370-60-4 HCA

CN 1,4-Benzenedicarboxylic acid, 2,2'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis-, tetramethyl ester (9CI) (CA INDEX NAME)



IT 33370-59-1P 33370-60-4P  
(prepn. of)

L38 ANSWER 15 OF 15 HCA COPYRIGHT 2007 ACS on STN  
66:76927 Disazo pigments. (CIBA Ltd.). Neth. Appl. NL 6600944 19660727,  
15 pp. (Dutch). CODEN: NAXXAN. PRIORITY: CH 19650126.

GI For diagram(s), see printed CA Issue.

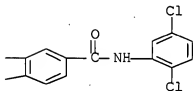
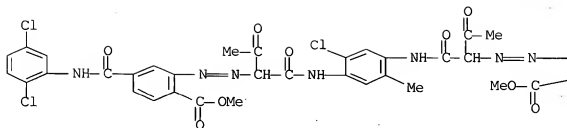
AB 3,4-H<sub>2</sub>N(MeO<sub>2</sub>C)C<sub>6</sub>H<sub>3</sub>COR (I, R = OH) (2 moles) diazotized and coupled with 1 mole 4,2,5-Cl(AcCH<sub>2</sub>CONH)2C<sub>6</sub>H<sub>2</sub>Me, the resulting dye (73.3 parts) in 1000 parts o-C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub> and 5 parts HCONMe<sub>2</sub> treated during 15 min. at 75-100° with 32.8 parts SOCl<sub>2</sub>, stirred 2 hrs. at 100-10°, and cooled gave 74 parts yellow cryst. acid chloride; a 7.74-part portion in 150 parts o-C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub> stirred with 0.2 part SOCl<sub>2</sub> at 90-5°, treated with 3.3 parts 2,5-Cl<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> in 50 cc. parts o-C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>, and heated for 12 hrs. at 140-5° yielded II which, milled with poly(vinyl chloride), produced greenish yellow shades. I (R = NHPh) (27.0 parts) diazotized and coupled with 19 parts [3,4-Me(AcCH<sub>2</sub>CONH)C<sub>6</sub>H<sub>3</sub>]<sub>2</sub> yielded 46 parts III which stirred 1-2 hrs. at 100-30° in xylene or o-C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub> was converted to uniform crystals; milled with poly(vinyl chloride) it gave greenish yellow shades.

IT 14278-98-9P  
(prepn. of)

RN 14278-98-9 HCA

CN Terephthalanilic acid, 2,2'-[(2-chloro-5-methyl-p-phenylene)bis(iminocarbonylacetonilideneazo)]bis[2',5'-dichloro-, dimethyl ester (8CI) (CA INDEX NAME)





IT 14278-98-9P  
(prepn. of)

=> D L39 1-6 CBIB ABS HITSTR HITRN

L39 ANSWER 1 OF 6 HCA COPYRIGHT 2007 ACS on STN

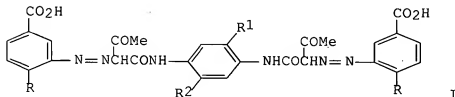
116:237351 Dicarboxy disazo compounds. Bartosek, Jan; Dobrovolny, Jan;

Weisbauer, Vaclav; Kindl, Jiri; Popova, Eva (Czech.). Czech. CS

266083 B1 19900613, 5 pp. (Czech). CODEN: CZXXA9. APPLICATION: CS

1988-1258 19880229.

GI



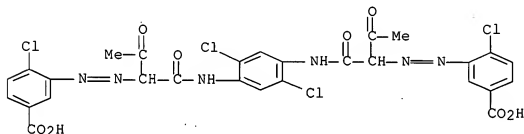
AB The disazo compds. I (R = Cl, CO<sub>2</sub>Me; R<sub>1</sub>, R<sub>2</sub> = H, Cl, Me), suitable for the prodn. of azo condensation pigments, contg. ≤3 mol.% monoazo dye are prepd. by 2-stage coupling without gelling of the reaction mixt. A soln. of 2,5-R<sub>1</sub>R<sub>2</sub>C<sub>6</sub>H<sub>2</sub>(NHCOCH<sub>2</sub>COMe)2-1,4 contg. 110-210% AcONa is added to 70-80% of the stoichiometric amt. of diazotized 2,5-R(HO<sub>2</sub>C)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> (II) at 10-30° and then 20-33% of the stoichiometric amt. of diazotized II is slowly added to the mixt. at 10-30° and pH 1-6. The end of coupling can be detd. potentiometrically with a Au electrode, and I is filtered off after heating to 90-5° at pH 2-5.

IT 57440-77-4P 60728-43-0P

(manuf. of, with low monoazo byproduct content)

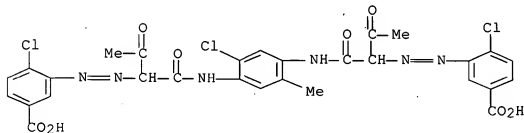
RN 57440-77-4 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro- (9CI) (CA INDEX NAME)



RN 60728-43-0 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro- (9CI) (CA INDEX NAME)



IT 57440-77-4P 60728-43-0P

(manuf. of, with low monoazo byproduct content)

L39 ANSWER 2 OF 6 HCA COPYRIGHT 2007 ACS on STN

111:235046 Mixed yellow disazo condensation pigments for organic polymers. Dobrovolny, Jan; Bartosek, Jan (Czech.). Czech. CS 257028 B1 19890116, 8 pp. (Czech). CODEN: CZXXA9. APPLICATION: CS 1986-4869 19860630.

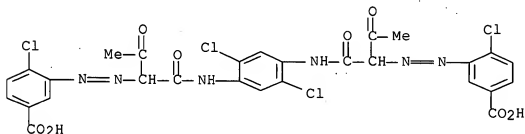
AB The title pigments  $\text{RNHCOXN:NCH(ComE)CONHYNHCOCH(ComE)N:NXCONHR}$ , [Y = substituted phenylene or naphthylene; X = substituted phenylene; R = di- or trisubstituted phenyl] useful for coloring PVC, polyurethane, polyethylene, etc. (no data) are prep'd. by the condensation of  $\text{ClCOXN:NCH(ComE)CONHYNHCOCH(ComE)N:NXCOCI}$  with a mixt. of substituted anilines in an inert org. solvent at 100-160°. The employed aniline isomer mixts. result from the nitration and redn. of substituted anilines without sepn. The dicarboxy disazo dye, prep'd. by coupling of 2 mol. of diazotized 3,4-H<sub>2</sub>N(Cl)C<sub>6</sub>H<sub>3</sub>CO<sub>2</sub>H with 1,4-bisacetoacetamido-2,5-dimethylbenzene, was converted to the diacid chloride with COCl<sub>2</sub> or SOCl<sub>2</sub>, and condensed in o-dichlorobenzene with a 33:67 mixt. of 2,5-Cl(Me)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> and 5,2-Cl(Me)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub> and heated to 140° for 2 h, producing a bright yellow pigment.

IT 57440-77-4P 60728-43-0P

(prepn. and chlorination of)

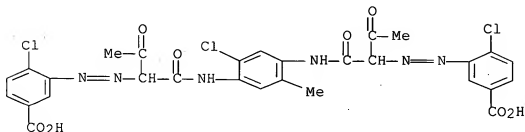
RN 57440-77-4 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro- (9Cl) (CA INDEX NAME)



RN 60728-43-0 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methyl-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro- (9Cl) (CA INDEX NAME)



IT 57440-77-4P 60728-43-0P  
(prepn. and chlorination of)

L39 ANSWER 3 OF 6 HCA COPYRIGHT 2007 ACS on STN

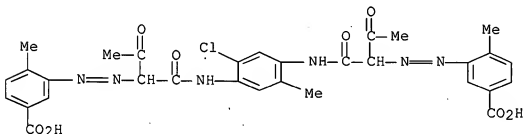
93:73763 Acid chlorides from disazo dye carboxylic acids. Lustig, Jiri;  
Skalicky, Ludek; Dobrovolny, Jan; Chmatal, Vladimir; Marhan, Jiri  
(Czech.). Czech. CS 181528 19800215, 6 pp. (Czech). CODEN:  
CZXXA9. APPLICATION: CS 1976-417 19760122.

AB Disazo dye dichlorides [ClCOZN:NCH(COMe)CONH]2Z1, where Z = substituted or unsubstituted phenylene and Z1 = substituted or unsubstituted p-phenylene or p,p'-biphenylene, were prepd. from the corresponding carboxylic acids and 1-10 mol COCl<sub>2</sub> per equiv CO<sub>2</sub>H at 20-150° and 0.1-3 MPa in inert org. solvents contg. N-substituted amides, tertiary amines, or ammonium or phosphonium salts as catalysts. Thus, 2,5-MeO(HO<sub>2</sub>C)C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>(I) → 1,4-(MeCOCH<sub>2</sub>CONH)2C<sub>6</sub>H<sub>2</sub>Cl<sub>2</sub>-2,5←I [74351-92-1] 0.1, DMF 0.14, and COCl<sub>2</sub> 0.4 mol reacted in 1,2-Cl<sub>2</sub>C<sub>6</sub>H<sub>4</sub> at 20-110° to give 90% of dichloride [74351-93-2] contg. 97.5% of the theor. amt. of hydrolyzable Cl.

IT 74351-80-7 74351-84-1 74351-92-1  
(reaction of, with phosgene)

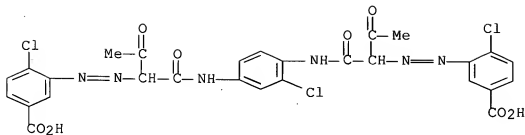
RN 74351-80-7 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methyl-1,4-phenylene)bis(imino(1-acetyl-2-oxo-2,1-ethanediyl)azo)]bis[4-methyl- (9Cl) (CA INDEX NAME)



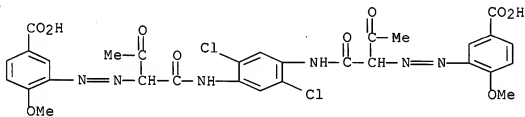
RN 74351-84-1 HCA

CN Benzoic acid, 3,3'-[(2-chloro-1,4-phenylene)bis(imino(1-acetyl-2-oxo-2,1-ethanediyl)azo)]bis[4-chloro- (9Cl) (CA INDEX NAME)



RN 74351-92-1 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-methoxy- (9CI) (CA INDEX NAME)



IT 74351-80-7 74351-84-1 74351-92-1  
(reaction of, with phosgene)

L39 ANSWER 4 OF 6 HCA COPYRIGHT 2007 ACS on STN

84:6482 Disazo tetracarboxylic acid dyes. Towle, Jack L. (Chemetron Corp., USA). Ger. Offen. DE 2511092 19751002, 21 pp. (German).

CODEN: GWXXBX. APPLICATION: DE 1975-2511092 19750313.

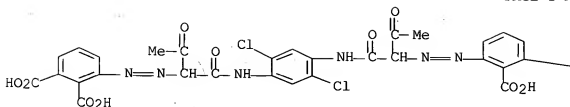
GI For diagram(s), see printed CA Issue.

AB Disazotetracarboxylic acids (1, Z = 2,5-dichloro-p-phenylene, 3,3'-dimethyl-4,4'-biphenylene) were prep'd. in >96% yield by coupling diazotized 2,3-(HO<sub>2</sub>C)2C6H3NH<sub>2</sub> [5434-20-8] with (MeCOCH<sub>2</sub>CONH)2Z in an aq. tetrahydrofuran [109-99-9] soln. Dehydration of the dicarboxylic acids gave the corresponding anhydrides and treatment with amines gave the corresponding carboximide derivs.

IT 57532-26-0P  
(prepn. of)

RN 57532-26-0 HCA

CN 1,2-Benzenedicarboxylic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)-2,1-diazenediyl]]bis- (CA INDEX NAME)



— CO<sub>2</sub>H

IT 57532-26-0P  
(prepn. of)

L39 ANSWER 5 OF 6 HCA COPYRIGHT 2007 ACS on STN  
83:29846 Disazo pigments. Ronco, Karl (Ciba-Geigy A.-G.). Ger. Offen.  
DE 2429022 19750123, 26 pp. (German). CODEN: GWXXBX.  
APPLICATION: DE 1974-2429022 19740618.

GI For diagram(s), see printed CA Issue.

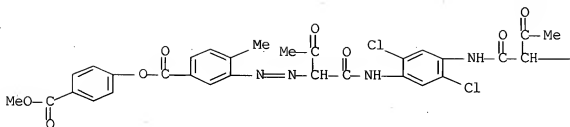
AB The disazo pigment (I, R = Me, R<sub>1</sub> = Cl) (II) [55489-25-3] and disazo pigment (I, R = Cl, R<sub>1</sub> = OMe) (III) [55489-26-4] were prep'd. and used for coloring PVC [9002-86-2] and printing inks yellow shades. Thus, reaction of diazotized 4,3-Me(H<sub>2</sub>N)C<sub>6</sub>H<sub>3</sub>CO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>Me-4 [55489-23-1] with 2,5-dichloro-p- bis(acetoacetyl-amino)benzene [42487-09-2] gave yellow II, migrationfast greenish yellow on PVC. Reaction of the chloride [55489-22-0] of the dye from 2 moles diazotized 4,3-Cl(H<sub>2</sub>N)C<sub>6</sub>H<sub>3</sub>CO<sub>2</sub>H and 1 mole 4,2,5-Cl(MeCOCH<sub>2</sub>CONH)2C<sub>6</sub>H<sub>2</sub>OMe with 4-HOC<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>Me [99-76-3] gave III, migration-, light-, and weatherfast reddish yellow on PVC.

IT 55489-25-3P 55489-26-4P  
(prepn. of, dyes, for printing inks and PVC)

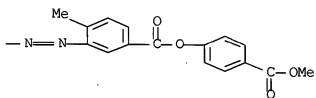
RN 55489-25-3 HCA

CN Benzoic acid, 3,3'-[(2,5-dichloro-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-methyl-, bis[4-(methoxycarbonyl)phenyl] ester (9CI) (CA INDEX NAME)

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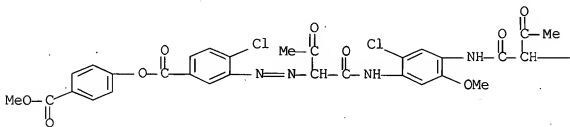
PAGE 1-B

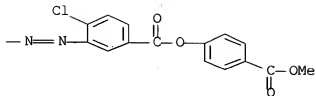


RN 55489-26-4 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methoxy-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediyl)azo]]bis[4-chloro-, bis[4-(methoxycarbonyl)phenyl] ester (9Cl) (CA INDEX NAME)

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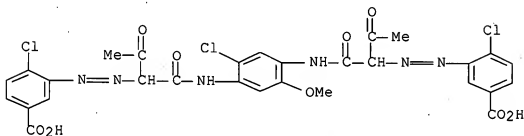


IT 55489-24-2

(reaction of, with thionyl chloride)

RN 55489-24-2 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methoxy-1,4-phenylene)bis[imino(1-acetyl-2-oxo-2,1-ethanediy)azo]]bis[4-chloro- (9CI) (CA INDEX NAME)



IT 55489-25-3P 55489-26-4P

(prepn. of, dyes, for printing inks and PVC)

IT 55489-24-2

(reaction of, with thionyl chloride)

L39 ANSWER 6 OF 6 HCA COPYRIGHT 2007 ACS on STN

75:141961 Disazo pigments for poly(vinyl chloride). Forter, Willy; Goldmann, Juergen (Sandoz Ltd.). Ger. Offen. DE 2103765 19710812, 32 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1971-2103765 19710127.

GI For diagram(s), see printed CA Issue.

AB Greenish yellow disazo pigments (I, R = CO<sub>2</sub>Ph, CO<sub>2</sub>C<sub>6</sub>H<sub>3</sub>ClMe-4,2, or SO<sub>3</sub>Ph), dyeing PVC fast yellow shades, were prepd. by coupling diazotized anilines with 1,4-bis(acetoacetyl amino)-2-methyl-5-chlorobenzene (II). Thus, reaction of diazotized Ph 3-amino-4-chlorobenzoate with II at 5° gave 1,4-bis[[α-[2-chloro-5-(phenoxycarbonylphenylazo)acetoacetyl]a mino]-2-methyl-5-chlorobenzene (I, R = CO<sub>2</sub>Ph). The two other I were similarly prepd.

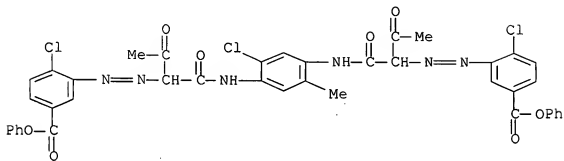


IT 34109-61-0P 34115-34-9P

(prepn. of)

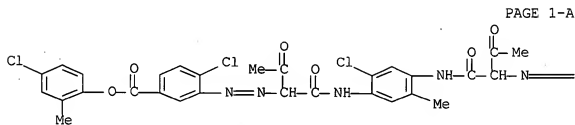
RN 34109-61-0 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methyl-1,4-phenylene)bis(imino(1-acetyl-2-oxo-2,1-ethanediyl)azo)]bis[4-chloro-, diphenyl ester (9CI)  
(CA INDEX NAME)



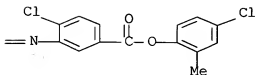
RN 34115-34-9 HCA

CN Benzoic acid, 3,3'-[(2-chloro-5-methyl-p-phenylene)bis(iminocarbonylacetonilideneazo)]bis[4-chloro-, bis(4-chloro-o-tolyl) ester (8CI) (CA INDEX NAME)



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IT 34109-61-0P 34115-34-9P  
(prepn. of)